MASTERING THE ROUTE TO DISAGGREGATION

OPERATING MODEL #3: OPERATOR PLATFORM FOR OWN USE

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OPERATING MODEL #3: OPERATOR PLATFORM FOR OWN USE

by NGMN Alliance

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ABSTRACT

This publication explores the operational model where telecom operators develop and maintain a platform exclusively for their own use. This approach allows operators to tailor the platform to their specific network and business needs, ensuring optimal performance and flexibility.

The primary benefits include rapid adaptability to market changes, enhanced technological advancement, and internal optimisation without the complexities of external commercialisation. Key features of this model include full customisation, complete control over the technology stack, and continuous optimisation based on real-time feedback.

The publication also discusses the necessary organisational changes, such as establishing specialised R&D and operations teams, adopting agile development processes, and implementing Continuous Integration/ Continuous Deployment (CI/CD) pipelines. Additionally, it highlights the importance of skill development in areas like virtualisation, cloud technologies, and automation.

The publication concludes with recommendations for successful implementation, emphasising the need for dedicated R&D investment, agile methodologies, skill development, and a focus on internal efficiency. By following these guidelines, there are good reasons why telecom operators could effectively enhance their operational efficiency and maintain technological leadership.

***disclaimer:
All operator and vendor examples mentioned in this publication are provided solely for illustrative purposes, serving to clarify the model through concrete examples. References to specific brands or company names are not intended as endorsements or recommendations. NGMN neither endorses nor promotes any particular operator or vendor and has no intention of doing so.

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01 EXECUTIVE SUMMARY

This publication outlines a telecom operational model where operators develop and maintain a platform exclusively for their own use. This approach allows the operator to tailor the platform to its specific needs, ensuring optimal performance and flexibility. By focusing on internal use, operators can quickly adapt to market changes and maintain technological advancement without the complexities of external commercialisation.

This model could be considered the most flexible as it allows the operator to develop its own platform and solution that could cater to any of its needs and business requirements. This model though could be considered less common, as most likely not so many operators will be capable of doing such, due to the huge requirement on investment and resources.

The model is described, and its pros and cons are discussed vis-a-vis the other operating models identified by NGMN in related publications. No recommendation should be inferred from these publications - they are simply to provide the industry with an overview of operating models and the impact on mobile operators. NGMN further notes that the list of models identified in this, and related publications, is non-exhaustive. Other approaches may be possible.

02 INTRODUCTION

In this operational model, the operator assumes full responsibility for developing and maintaining platforms or solutions, tailored to its own network use and business requirements. This approach allows the operator to have complete control over the technology and operations, as well as its features and capabilities, ensuring the platform or solution is optimised for its specific needs. The primary advantage of this model is the ability to rapidly adjust, customise and enhance the platform's functionalities in response to internal demands and market dynamics. This could be the most flexible model as the operator has full control.

03 OPERATING MODEL: OPERATOR PLATFORM FOR OWN USE

3.1 OVERVIEW

The "Operator Developed for Own Use" model focuses on creating a platform that serves the internal needs of the operator. This platform is not intended for commercialisation or adoption by other operators. The development process is driven by the operator's specific requirements, allowing for greater customisation and flexibility.

3.2 KEY FEATURES

- **Customisation:**
  The platform or solution can be tailored to meet the unique needs of the operator's network and business operations.

- **Flexibility:**
  Operators can quickly develop features and capabilities as well as implement changes and updates to the platform without the constraints of external customer requirements.

- **Control:**
  Full control over the technology stack, ensuring that all components work seamlessly together and fits the requirement and needs of the operator.

- **Optimisation:**
  The platform can easily be adjusted and continuously be optimised for performance, reliability, and efficiency based on real-time feedback from the operator's network and business.

04 IMPLICATIONS OF THE OPERATOR DEVELOPED PLATFORM

4.1 ORGANISATIONAL CHANGES

To support this operating model, it will require significant amount of investment and resources. For one, the operator must establish specialised R&D and operations teams responsible for all stages of the platform's life cycle, including design, development, testing, and maintenance.

4.1.1 Process Changes

Adopting agile development processes and implementing Continuous Integration/Continuous Deployment (CI/CD) pipelines are essential to meet the demands of rapid technological iterations and market changes.

4.1.2 People (Skills) Changes

Developing and managing a disaggregated network platform requires significant changes in skills and organisational culture:

- **Skill Development:**
  Operators need to invest in training programs to develop expertise in virtualisation, cloud technologies, automation, and orchestration tools.

- **New Working Methodologies:**
  Adopting methodologies like DevOps, CI/CD pipelines and GitOps is essential, requiring a shift from traditional Telecom environments to more collaborative and agile ways of working.

4.2 RELATIONS WITH VENDORS

As an operator initiates the development of an operational model and platform using open-source technologies and in-house development tools while working with vendor provided applications for 5G, O-RAN etc., there is a need for adjusting and updating support contracts, Statements of Work (SoW), accountabilities and deliverables to ensure successful implementation and continuous operations. This hybrid approach presents both challenges and opportunities in vendor relations. In many cases the challenges and opportunities are in direct conflict with each other meaning that success will depend on the extent to which opportunities can be realised in the face of the challenges (see section 4.2.3).

4.2.1 Challenges:

1. Information Sharing:
Operators might face challenges in gaining the necessary information, as vendor-supported models vary between customers and may not routinely include mechanisms to support in-house development capabilities for operators.

2. Compatibility Issues:
Integrating vendor-managed solutions with the operator's custom-built platform may lead to technical compatibility challenges.

3. Contractual Complexities:
Existing contracts may need significant revisions to accommodate the new operational model.

4. Skill Gaps:
The operator's team may lack expertise in certain areas covered by vendor solutions, necessitating ongoing vendor support or additional recruitment of new staff and/or training of existing staff.

4.2.2 Opportunities:

1. Collaborative Innovation:
Engaging vendors in the development process may lead to innovative solutions that combine the strengths of both parties. This could also lead to vendors developing a wider range of products that could better serve the dedicated operator.

2. Flexible Service Models:
Operators may negotiate more flexible service and support models that align with their evolving needs.

3. Knowledge Transfer:
Close collaboration with vendors may facilitate knowledge transfer, enhancing the operator's in-house capabilities over time.

4. Improved Agility:
A well-managed hybrid approach may increase the operator's ability to adapt to market changes quickly.

5. Higher Level of Control:
The Operator has control over the vendor selection and technology alternatives.

6. Improved Employee Engagement:
The organisation's employees may feel empowered to drive innovation in partnership with vendors, which may lead to improved retention through innovation and skill-sets growth.

4.2.3 Successful Strategies

To navigate these challenges and capitalise on opportunities, operators could consider the following strategies:

1. **Clear Communication Plans:**
   Establish transparent communication channels and expectations with vendors to foster trust and cooperation.

2. **Detailed SOWs and SLAs:**
   Develop comprehensive Statements of Work and Service Level Agreements that clearly define roles, responsibilities, and performance metrics.

3. **Regular Review Meetings:**
   Schedule periodic reviews to assess the effectiveness of the hybrid model and address any emerging issues promptly.

4. **Collaborative Road Mapping:**
   Engage vendors in long-term planning to ensure alignment of development efforts and future capabilities.

5. **Open API Standards:**
   Promote the use of open APIs and standards to facilitate easier integration between in-house and vendor-provided components and even solutions from other operators and the industry.

6 **Key Employee Retention:**
   Ensure that plans are in place to retain key expertise within the organisation.

7. **Succession Planning:**
   Ensure that key expertise is shared across a number of employees in order to provide technical and business continuity.

By carefully managing vendor relationships within this new operational paradigm, operators could create a more resilient, flexible, and innovative platform that leverages the best of both in-house development and vendor expertise. This approach requires ongoing attention to contractual terms, clear communication, and a commitment to mutual benefit for both the operator and its vendor partners.

4.2.4 Further Aspects

Since the platform is developed for internal use, the primary focus is on optimising internal efficiencies. However, the operator must still consider the cost of development, ongoing operation, and maintenance, ensuring that the platform remains cost-effective and sustainable.

05 CONCLUSIONS

The "Operator Developed for Own Use" model provides operators with the flexibility and control needed to optimise their network, business operations and better serve the customers. By focusing on internal needs, operators can quickly adapt to market changes and maintain technological leadership. However, this model requires significant investment in R&D, specialised skills, and agile development processes.

Operators who decide to pursue this model will typically need to:

- **Invest in R&D:**
  Establish dedicated teams for continuous development and improvement of the platform.

- **Adopt Agile Methodologies:**
  Implement agile development processes and CI/CD pipelines to ensure rapid deployment and iteration.

- **Focus on Skill Development:**
  Invest in training programs to develop expertise in key technologies and methodologies.

- **Optimise for Internal Efficiency:**
  Continuously monitor and optimise the platform to ensure it meets the operator's specific needs and remains cost-effective.

06 LIST OF ABBREVIATIONS

CI/CD	Continuous Integration/Continuous Deployment
CN	Core Network
DevOps	integrating and automating the work of software development and IT operation
GTM	Go To market
SO	Service Orchestration
R&D	Research and Development

NEXT GENERATION MOBILE NETWORKS ALLIANCE

NGMN is a forum established in 2006 by world-leading Mobile Network Operators. NGMN is a global operator-led alliance comprising nearly 70 companies and organizations, including operators, vendors and academia.

Its objective is to ensure that next generation network infrastructure, service platforms, and devices meet the requirements of operators and address the demands and expectations of end users.

VISION

The vision of NGMN is to provide impactful industry guidance to achieve innovative, sustainable and affordable mobile telecommunication services for the end user with a particular focus on Mastering the Route to Disaggregation, Green Future Networks and 6G, whilst continuing to support 5G's full implementation.

MISSION

The mission of NGMN is:

- To evaluate and drive technology evolution towards the three **Strategic Focus Topics:**
  - **Mastering to the Route to Disaggregation:**

    Leading in the development of open, disaggregated, virtualised and cloud native solutions with a focus on the E2E Operating Model
  - **Green Future Networks:**

    Developing sustainable and environmentally conscious solutions
  - **6G:**

    Anticipating the emergence of 6G by highlighting key technological trends and societal requirements, as well as outlining use cases, requirements, and design considerations to address them.
- To define precise functional and non-functional requirements for the next generation of mobile networks
- To provide guidance to equipment developers, standardisation bodies, and collaborative partners, leading to the implementation of a cost-effective network evolution
- To serve as a platform for information exchange within the industry, addressing urgent concerns, sharing experiences, and learning from technological challenges
- To identify and eliminate obstacles hindering the successful implementation of appealing mobile services.